

IN THE CLAIMS:

The status and content of each claim follows:

1. (currently amended) An ink delivery regulation apparatus,  
comprising:  
  
an ink chamber configured to contain a quantity of ink;  
  
a support configured to be coupled to said ink chamber; and  
  
a resilient deflection member coupled to said support, said resilient deflection member extending into said ink chamber and occupying a volume thereof, said resilient deflection member being configured to resiliently deflect between a generally concave shape and a generally convex shape in response to a change in a negative pressure in said ink exterior to said resilient deflection member, said resilient deflection member comprising a plurality of pressure tuned panels disposed at angles with respect to each other.
2. (original) The apparatus of claim 1, wherein said support is configured to sealingly engage said ink chamber.
3. (cancelled)
4. (previously presented) The apparatus of claim 3, wherein said resilient deflection member comprises first, second, and third pressure tuned panels .

5. (original) The apparatus of claim 4, wherein said second panel is coupled to said support, said second panel being initially at a first angle relative to said first panel, at a second angle relative to said support, and at a third angle relative to said third panel.

6. (original) The apparatus of claim 1, wherein said deflection member comprises an elastomeric material.

7. (original) The apparatus of claim 6, where said elastomeric material comprises EPDM/Butyl.

8. (previously presented) The apparatus of claim 1, wherein said resilient deflection member is of substantially uniform thickness.

9. (currently amended) An ink delivery apparatus, comprising:  
an ink chamber; and  
a pressure regulation member having a support configured to be coupled to said ink chamber and a resilient deflection member extending from said support and into said ink chamber occupying a volume thereof, said resilient deflection member being configured to resiliently deflect between a generally concave shape and a generally convex shape in response to a change in a negative pressure in said ink chamber exterior to said resilient deflection member, said resilient deflection member comprising a plurality of pressure tuned panels disposed at angles with respect to each other.

10. (previously presented) An ink delivery apparatus, comprising:  
a plurality of ink chambers; and  
a plurality of pressure regulation members, each a pressure regulation member being attached to a support that is configured to be coupled to said ink chambers, each pressure regulation member configured to be positioned within an ink chamber and comprising a resilient deflection member, said resilient deflection member being configured to resiliently deflect between a generally concave shape and a generally convex shape in response to a change in negative pressure.

11. (original) The apparatus of claim 9, further comprising a plurality of ink chambers.

12. (previously presented) The apparatus of claim 11, further comprising a plurality of pressure regulation members associated with said chambers.

13. (original) The apparatus of claim 11, wherein said plurality of ink chambers is configured to contain a plurality of differently colored inks.

14. (cancelled)

15. (cancelled)

16. (original) The apparatus of claim 9, further comprising a fitment associated with said ink chamber.

17-22. (cancelled)

23. (previously presented) The apparatus of claim 16, wherein said fitment is configured to couple with a print head.

24. (original) The apparatus of claim 16, further comprising a bubble generator associated with said chamber.

25. (original) The apparatus of claim 24, wherein said bubble generator is configured to limit said negative pressure within said chamber to a pressure equivalent to about 6" of water column during an operational period of said apparatus.

26. (original) The apparatus of claim 25, wherein said bubble generator is disposed in said fitment.

27. (currently amended) An ink delivery apparatus, comprising:  
a plurality of ink chambers; and  
an integral pressure regulation assembly having a plurality of pressure regulation members corresponding to said plurality of ink chambers, said assembly being configured to couple to said plurality of ink chambers;

wherein each pressure regulation member is configured to be positioned within one of said plurality of ink chambers and includes a resilient deflection member, said resilient deflection member being configured to resiliently deflect between a generally concave shape and a generally convex shape in response to a change in negative pressure, said resilient deflection member comprising a plurality of pressure tuned panels disposed at angles with respect to each other.

28-29. (cancelled)

30. (previously presented) The apparatus of claim 27, wherein said plurality of ink chambers is configured to contain a plurality of differently colored inks.

31. (cancelled)

32. (cancelled)

33. (original) The apparatus of claim 27, further comprising a fitment associated with said ink chamber.

34-39. (cancelled)

40. (currently amended) The apparatus of claim ~~[[35]]~~ 33, wherein said fitment is configured to couple with a print head.

41. (original) The apparatus of claim 33, further comprising a bubble generator associated with said chamber.

42. (original) The apparatus of claim 41, wherein said bubble generator is configured to limit said negative pressure within said chamber to a pressure equivalent to about 6" of water column during an operational period of said apparatus.

43. (original) The apparatus of claim 42, wherein said bubble generator is disposed in said fitment.

44. (currently amended) A printing device, comprising:  
an ink chamber configured to contain a quantity of ink; and  
a pressure regulation member having

a support coupled to said ink chamber;

a resilient deflection member extending from said support into said ink chamber and occupying a volume thereof, said resilient deflection member being configured to resiliently deflect between a generally concave shape and

a generally convex shape in response to a change in a negative pressure in said ink chamber exterior to said resilient deflection member, said resilient deflection member comprising a plurality of pressure tuned panels disposed at angles with respect to each other;

a fitment coupled to said ink chamber;

a bubble generator in communication with said ink chamber;

a print head coupled to said ink chamber.

45. (cancelled)

46. (currently amended) The device of claim ~~[[45]]~~ 44, wherein said pressure tuned panels comprise first, second, and third pressure tuned panels, wherein said second panel is coupled to said support, said second panel being initially at a first angle relative to said first panel, at a second angle relative to said support, and at a third angle relative to said third panel.

47. (original) The device of claim 44, wherein said bubble generator is configured to provide a substantially constant pressure equivalent to about 6" of water column.

48. (original) The device of claim 47, wherein said range is substantially equivalent to pressures of between about 3" and 7" inches of water column.

49. (previously presented) The device of claim 44, further comprising a plurality of ink chambers.

50. (original) The device of claim 49, wherein said plurality of chambers comprises three chambers.

51. (previously presented) The device of claim 50, wherein said plurality of chambers are configured to contain a plurality of differently colored inks.

52. (previously presented) The device of claim 44, further comprising a fitment comprising first and second fluid interconnects, said first fluid interconnect being configured to fluidly couple said print head and said chamber, and said second fluid interconnect being configured to fluidly couple an ink supply and said chamber.

53. (cancelled)

54. (cancelled)



55. (currently amended) A method of delivering ink, comprising:  
providing an ink chamber containing an ink and wherein is disposed a deflection member extending into said ink chamber and occupying a volume thereof, said resilient deflection member comprising a plurality of pressure tuned panels disposed at angles with respect to each other;  
establishing a negative pressure in said chamber exterior to said deflection member;  
supplying said ink to print head;  
regulating a level of said negative pressure within a pre-determined range during said supplying of said ink by resiliently deflecting said deflection member in response changes in said negative pressure.

56. (original) The method of claim 55, wherein said regulating step further comprises resiliently deflecting said deflection member between a generally concave shape to a generally convex shape.

57. (previously presented) The method of claim 55, further comprising providing a plurality of said ink chambers and a corresponding plurality of said deflection members, wherein a deflection member is disposed in each of said chambers.

58. (original) The method of claim 57, wherein each of said plurality of said chambers is configured to contain a differently colored ink.

59. (original) The method of claim 55, further comprising using an internal pressure source.

60. (original) The method of claim 59, wherein said internal pressure source comprises a bubble generator.

61. (original) The method of claim 60, wherein said bubble generator is tuned to pressure equivalent to about 6" of water.

62. (original) The method of claim 55, wherein said step of establishing said negative pressure comprises applying a positive pressure to said deflection member during a filling step, and removing said positive pressure at an end of said filling step.

63. (original) The method of claim 55, wherein said step of establishing said negative pressure comprises removing a small amount of said ink.

64. (original) The method of claim 55, further comprising moving said ink chamber with said print head.

65-70. (cancelled)

71. (previously presented) The apparatus of claim 1, wherein said deflection member is configured to change shape in response to a change in ambient conditions so as to maintain said negative pressure within predetermined limits.

72. (previously presented) The apparatus of claim 12, wherein a plurality of pressure regulation members is associated with each of said ink chambers.

73. (cancelled)